What is Claimed is:

1. A warming device for heating intravenous fluids to desired temperatures comprising:

a housing;

a fluid cassette removably securable within said device to receive fluid from an intravenous fluid line, wherein said fluid cassette includes fluid line tubing arranged to form a fluid flow path through said cassette;

a plurality of heating elements disposed within said housing to heat said fluid cassette, wherein said heating elements are positioned to facilitate insertion of said cassette between at least two heating elements;

at least one temperature sensor to measure at least one temperature within said housing; and

a controller coupled to said at least one temperature sensor and said heating elements to control said heating elements in accordance with said at least one measured temperature.

2. The warming device of claim 1, wherein said controller further enables said heating elements when said fluid cassette is secured within said device and disables said heating elements when said fluid cassette is absent from said device.

3. The warming device of claim 1, wherein said housing further includes:

a cover including at least one of said heating elements to heat said fluid cassette;

a heater plate including at least one of said heating elements to receive and heat said fluid cassette; and

a base plate including a receiving surface to receive and retain said heater plate and said fluid cassette within said device.

4. The warming device of claim 3, wherein:

said base plate further includes an electrically conductive post disposed on said receiving surface;

said fluid cassette further includes an electrically conductive contact disposed around a portion of said fluid line tubing;

each said cover heating element includes a contact plate; and

said controller controls said heating elements in response to said contact engaging said conductive post and said contact plate.

5. The warming device of claim 1, wherein said fluid cassette includes inlet and outlet terminals disposed proximate each other.

6. The warming device of claim 5, wherein said fluid cassette tubing includes an inlet tubing section including said inlet terminal and an outlet tubing section including said outlet terminal, and wherein said fluid cassette includes tubing sections extending adjacent each other in a spiral configuration to form an annular section of said tubing cassette with said inlet and outlet tubing sections extending tangentially from said annular section.

7. The warming device of claim 6, wherein said annular section includes an intermediate section to direct fluid flow received from said inlet terminal in a reverse direction through said annular section tubing sections toward said outlet terminal.

8. The warming device of claim 1, wherein said intravenous fluid line is connected to a pre-heated container of fluid and said device is positioned toward a patient infusion site, and wherein said controller controls said heating elements to heat said fluid to compensate for heat loss due to exposure of said intravenous line fluid to an ambient environment during infusion.

9. The warming device of claim 1, wherein said fluid cassette tubing includes concentric tubing sections each defining a path for fluid flow in a particular direction, and wherein said fluid flow direction within each concentric tubing section is opposite to the fluid flow direction within a concentric tubing section adjacent that section.

10. The warming device of claim 1, wherein said fluid cassette includes a fitting in fluid communication with said fluid line tubing to measure temperature of fluid flowing within said fluid cassette.

11. The warming device of claim 10, wherein said fitting includes a thermally conductive member in direct contact with fluid flowing within said fitting, and said housing further includes:

a temperature sensing probe suitably dimensioned to extend within said fitting and releasably engage said thermally conductive member to measure temperature of said fluid flowing within said cassette.

12. The warming device of claim 1, wherein said controller selectively enables and disables said heating elements in accordance with a comparison of said at least one measured temperature with a desired fluid temperature.

13. The warming device of claim 12, wherein said controller includes at least one input device to facilitate entry of said desired fluid temperature.

14. The warming device of claim 1, wherein said housing further includes a heater plate including at least one of said heating elements to receive and heat said fluid cassette, wherein said at least one temperature sensor includes a first sensor disposed proximate said heater plate to measure a temperature of said heater plate and a second sensor disposed proximate said fluid cassette to measure a temperature of fluid flowing therein, and wherein said controller selectively enables and disables said heating elements in accordance with a comparison of said measured temperatures with a desired fluid temperature.

15. The warming device of claim 1 further including a heat controller to control said heating elements to attain a predetermined temperature, wherein said heat controller is selectively disabled by said controller in accordance with said at least one measured temperature.

16. The warming device of claim 1 further including a pivotable mount securable to a support structure to receive and place said warming device in a desired position.

17. A fluid cassette to receive fluid from an intravenous fluid line and facilitate heating of said fluid to a desired fluid temperature within an intravenous fluid warming device, said cassette comprising:

fluid line tubing including an inlet tubing portion with an inlet terminal to receive fluid into said cassette and an outlet tubing portion with an outlet terminal to release fluid from said cassette, said inlet and outlet terminals being securable to portions of said intravenous fluid line;

wherein said fluid line tubing further includes a plurality of tubing sections in fluid communication with said inlet and outlet tubing portions, each said tubing section defining a path for fluid flow in a particular direction, and wherein said fluid flow direction within each tubing section is opposite the fluid flow direction within a tubing section adjacent that section.

18. The fluid cassette of claim 17, wherein said tubing sections are concentric and define a fluid cassette annular section, and said inlet and said outlet tubing portions extend tangentially from said annular section.

19. The fluid cassette of claim 18, wherein said annular section includes an intermediate section to direct fluid flow received from said inlet terminal in a reverse direction through said annular section tubing sections toward said outlet terminal.

20. The fluid cassette of claim 17 further including a conductive contact disposed about a portion of said fluid line tubing.

21. The fluid cassette of claim 17 further including a fitting in fluid communication with said fluid line tubing to permit fluid to flow within said fitting, wherein said fitting receives a temperature sensor to measure temperature of said fluid flowing within said fluid cassette.

22. The fluid cassette of claim 21, wherein said fitting includes a thermally conductive member disposed within said fitting and in direct contact with fluid flowing through said fitting, wherein said thermally conductive member receives said temperature sensor to measure temperature of said fluid flowing within said fluid cassette.

23. The fluid cassette of claim 17 further including at least one engagement member to facilitate manipulation, insertion and removal of said fluid cassette within said warming device.

24. In a warming device including a housing, a fluid cassette removably securable within said warming device, a plurality of heating elements, at least one temperature sensor and a controller, a method of heating intravenous fluids to desired temperatures comprising the steps of:

(a) receiving fluid within said cassette from an intravenous fluid line, wherein said fluid cassette is disposed within said warming device between at least two of said heating elements and includes fluid line tubing arranged to form a fluid flow path through said cassette;

(b) heating said fluid cassette within said warming device via said heating elements;

(c) measuring at least one temperature within said housing; and

(d) controlling said heating elements in accordance with said at least one measured temperature.

25. The method of claim 24, wherein step (d) further includes:

(d.1) enabling said heating elements when said fluid cassette is secured within said device and disabling said heating elements when said fluid cassette is absent from said device.

26. The method of claim 24, wherein said housing further includes a cover including at least one of said heating elements, a heater plate including at least one of said heating elements to receive and heat said fluid cassette and a base plate including a receiving surface to receive and retain said heater plate and said fluid cassette within said device, and step (d) further includes:

(d.1) controlling said cover and heater plate heating elements in accordance with said at least one measured temperature to heat said fluid cassette.

27. The method of claim 26, wherein said base plate further includes an electrically conductive post disposed on said receiving surface and said fluid cassette further includes an

electrically conductive contact disposed around a portion of said fluid line tubing, wherein each said cover heating element includes a contact plate, and step (d.1) further includes:

(d.1.1) controlling said heating elements in response to said contact engaging said conductive post and said contact plate.

28. The method of claim 24, wherein said fluid cassette includes inlet and outlet terminals disposed proximate each other, and step (a) further includes:

(a.1) receiving fluid from said intravenous fluid line via said inlet terminal; and

step (d) further includes:

(d.1) directing heated fluid from said fluid cassette to said intravenous line via said outlet terminal.

29. The method of claim 28, wherein said fluid cassette tubing includes an inlet tubing section including said inlet terminal and an outlet tubing section including said outlet terminal, wherein said fluid cassette includes tubing sections extending adjacent each other in a spiral configuration to form an annular section of said tubing cassette with said inlet and outlet tubing sections extending tangentially from said annular section, wherein said annular section includes an intermediate section, and step (a.1) further includes:

(a.1.1) directing fluid flow received from said inlet terminal in a reverse direction through said annular section tubing sections toward said outlet terminal via said intermediate section.

30. The method of claim 24, wherein said intravenous fluid line is connected to a pre-heated container of fluid and said device is positioned toward a patient infusion site, and step (d) further includes:

(d.1) controlling said heating elements to heat said fluid to compensate for heat loss due to exposure of said intravenous line fluid to an ambient environment during infusion.

31. The method of claim 24, wherein said fluid cassette tubing includes concentric tubing sections each defining a path for fluid flow in a particular direction, and step (a) further includes:

(a.1) directing fluid flow in a direction within each concentric tubing section that is opposite to the fluid flow direction within a concentric tubing section adjacent that section.

32. The method of claim 24, wherein said fluid cassette includes a fitting in fluid communication with said fluid line tubing, and step (c) further includes:

(c.1) measuring temperature of fluid flowing within said fluid cassette via said fitting.

33. The method of claim 32, wherein said fitting includes a thermally conductive member in direct contact with fluid flowing within said fitting and said housing further includes a temperature sensing probe suitably dimensioned to extend within said fitting and releasably engage said thermally conductive member, and step (c.1) further includes:

(c.1.1) measuring temperature of said fluid flowing within said cassette via said temperature sensing probe.

34. The method of claim 24, wherein step (d) further includes:

(d.1) selectively enabling and disabling said heating elements in accordance with a comparison of said at least one measured temperature with a desired fluid temperature.

35. The method of claim 34, wherein said controller includes at least one input device, and step (d.1) further includes:

(d.1.1) facilitating entry of said desired fluid temperature via said at least one input device.

36. The method of claim 24, wherein said housing further includes a heater plate including at least one of said heating elements to receive and heat said fluid cassette, wherein said at least one temperature sensor includes a first sensor disposed proximate said heater plate and a second sensor disposed proximate said fluid cassette, and step (c) further includes:

(c.1) measuring a temperature of said heater plate via said first sensor; and

(c.2) measuring a temperature of fluid flowing within said fluid cassette via said second sensor; and

step (d) further includes:

(d.1) selectively enabling and disabling said heating elements in accordance with a comparison of said measured temperatures with a desired fluid temperature.

37. The method of claim 24, wherein said warming device further includes a heat controller, and step (d) further includes:

(d.1) controlling said heating elements to attain a predetermined temperature via said heat controller, wherein said heat controller is selectively disabled by said controller in accordance with said at least one measured temperature.

38. The method of claim 24, wherein said warming device further includes a pivotable mount securable to a support structure, and step (a) further includes:

(a.1) receiving said warming device on said mount to facilitate placement of said warming device in a desired position.

39. A warming device for heating intravenous fluids to desired temperatures comprising:

a housing;

fluid flow means removably securable within said device for receiving fluid from an intravenous fluid line, wherein said fluid flow means includes fluid line tubing arranged to form a fluid flow path through said fluid flow means;

a plurality of thermal means disposed within said housing for heating said fluid flow means, wherein said thermal means are positioned to facilitate insertion of said fluid flow means between at least two thermal means;

temperature means for measuring at least one temperature within said housing; and

control means coupled to said temperature means and said thermal means for controlling said thermal means in accordance with said at least one measured temperature.

40. The warming device of claim 39, wherein said control means includes detection means for enabling said thermal means when said fluid flow means is secured within said device and disabling said thermal means when said fluid flow means is absent from said device.

41. The warming device of claim 39, wherein said housing further includes:

a cover including at least one of said thermal means to heat said fluid cassette;

heat applying means including at least one of said thermal means for receiving and heating said fluid flow means; and

base means including a receiving surface for receiving and retaining said heat applying means and said fluid flow means within said device.

42. The warming device of claim 41, wherein:

said base means further includes an electrically conductive post disposed on said receiving surface;

said fluid flow means further includes an electrically conductive contact disposed around a portion of said fluid line tubing;

each said cover thermal means includes a contact plate; and

said control means includes detection means for controlling said thermal means in response to said contact engaging said conductive post and said contact plate.

43. The warming device of claim 39, wherein said fluid cassette includes inlet and outlet terminals disposed proximate each other.

44. The warming device of claim 43, wherein said fluid flow means tubing includes an inlet tubing section including said inlet terminal and an outlet tubing section including said outlet terminal, wherein said fluid flow means includes tubing sections extending adjacent each other in a spiral configuration to form an annular section of said fluid flow means with said inlet and outlet tubing sections extending tangentially from said annular section.

45. The warming device of claim 44, wherein said annular section includes an intermediate section to direct fluid flow received from said inlet terminal in a reverse direction through said annular section tubing sections toward said outlet terminal.

46. The warming device of claim 39, wherein said fluid flow means tubing includes concentric tubing sections each defining a path for fluid flow in a particular direction, and

wherein said fluid flow direction within each concentric tubing section is opposite to the fluid flow direction within a concentric tubing section adjacent that section.

47. The warming device of claim 39, wherein said fluid flow means includes a fitting in fluid communication with said fluid line tubing to measure temperature of fluid flowing within said fluid flow means.

48. The warming device of claim 39, wherein said control means includes power means for selectively enabling and disabling said heating elements in accordance with a comparison of said at least one measured temperature with a desired fluid temperature.

49. The warming device of claim 39, wherein said housing further includes a heat applying means including at least one of said thermal means for receiving and heating said fluid flow means, wherein said temperature means includes first sensing means disposed proximate said heat applying means for measuring a temperature of said heat applying means and second sensing means disposed proximate said fluid flowing means for measuring a temperature of fluid flowing therein, and wherein said control means includes power means for selectively enabling and disabling said thermal means in accordance with a comparison of said measured temperatures with a desired fluid temperature.

50. The warming device of claim 39 further including heat control means for controlling said thermal means to attain a predetermined temperature, wherein said heat control means is selectively disabled by said control means in accordance with said at least one measured temperature.

51. A fluid cassette to receive fluid from an intravenous fluid line and facilitate heating of said fluid to a desired fluid temperature within an intravenous fluid warming device, said cassette comprising:

fluid flow means including an inlet portion with an inlet terminal to receive fluid into said cassette and an outlet portion with an outlet terminal to release fluid from said cassette, said inlet and outlet portions being securable to portions of said intravenous fluid line;

wherein said fluid flow means further includes a plurality of concentric sections in fluid communication with said inlet and outlet portions, each said concentric section defines a path for fluid flow in a particular direction, and wherein said fluid flow direction within each concentric section is opposite the fluid flow direction within a concentric section adjacent that section.

52. The fluid cassette of claim 51, wherein said concentric sections define a fluid cassette annular section, and said inlet and said outlet portions extend tangentially from said annular section.

53. The fluid cassette of claim 52, wherein said annular section includes an intermediate section to direct fluid flow received from said inlet terminal in a reverse direction through said annular section toward said outlet terminal.

54. The fluid cassette of claim 51 further including a conductive contact disposed about a portion of said fluid flow means.

55. The fluid cassette of claim 51 further including a fitting in fluid communication with said fluid flow means to permit fluid to flow within said fitting, wherein said fitting receives a temperature sensor to measure temperature of said fluid flowing within said fluid cassette.

56. The fluid cassette of claim 51 further including at least one engagement means for facilitating manipulation, insertion and removal of said fluid cassette within said warming device.

57. A fluid cassette to receive fluid from an intravenous fluid line and facilitate heating of said fluid to a desired fluid temperature within an intravenous fluid warming device, said cassette comprising:

a fluid conduit including an inlet portion with an inlet terminal to receive fluid into said cassette and an outlet portion with an outlet terminal to release fluid from said cassette, said inlet and outlet portions being securable to portions of said intravenous fluid line;

wherein said fluid conduit further includes a plurality of concentric sections in fluid communication with said inlet and outlet portions, each said concentric section defines a path for fluid flow in a particular direction, and wherein said fluid flow direction within each concentric section is opposite the fluid flow direction within a concentric section adjacent that section.

58. The fluid cassette of claim 57, wherein said concentric sections define a fluid cassette annular section, and said inlet and said outlet portions extend tangentially from said annular section.

59. The fluid cassette of claim 58, wherein said annular section includes an intermediate section to direct fluid flow received from said inlet terminal in a reverse direction through said annular section toward said outlet terminal.

60. The fluid cassette of claim 57 further including a conductive contact disposed about a portion of said fluid conduit.

61. The fluid cassette of claim 57 further including a fitting in fluid communication with said fluid conduit to permit fluid to flow within said fitting, wherein said fitting receives a temperature sensor to measure temperature of said fluid flowing within said fluid cassette.

62. The fluid cassette of claim 57 further including at least one engagement member to facilitate manipulation, insertion and removal of said fluid cassette within said warming device.